PMS8

HOSPITAL-REPORTED FREQUENCY & EXCESS COST OF FOREIGN OBJECTS LEFT IN THE BODY DURING TOTAL JOINT ARTHROPLASTY

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OBJECTIVES: To quantify the frequency of and excess cost associated with foreign objects (e.g., surgical instruments and sponges) left in the body during total joint arthroplasty (TJA). **METHODS:** Data from the 2009-2012 National/Nationwide Inpatient Samples (NIS) were analyzed using descriptive (i.e., frequencies and means) and bivariate statistical methods (i.e., t-test, chi-square, and their non-parametric equivalents). Patients that underwent TJA were identified through International Classification of Diseases, 9th Revision (ICD-9) procedure codes 81.51 (hip TJA) and 81.54 (knee TJA). Patients with retained foreign objects were identified using ICD-9 external causes of injury code E871.0. NIS sample weights were used to generate national incidence estimates. Costs were estimated using the NIS' charge-to-cost ratio for each hospital. All costs are reported in 2014 dollars using Consumer Price Index adjustment factors. We were only able to quantify the frequency and excess cost associated with foreign objects identified and reported during the peri-operative period (i.e., initial hospitalization). RESULTS: Included in the NIS were 761,225 patients that underwent TJA during the study period. Of these patients, only 44 (0.01%) had a retained foreign object (20 hip TJA and 24 knee TJA); however, TJA patients accounted for 4.5% of all surgical patients with a hospital-reported retained object. These TJA patients underwent one additional procedure, on average, than those without a retained object ($p<0.0001$). We estimate the total annual frequency of these events at 55 TJA patients. The estimated average excess cost of these avoidable adverse events is $4,950 ($p=0.0068$). **CONCLUSIONS:** Despite considerable effort aimed at reducing the frequency in which foreign objects are inadvertently left in the body during surgery, these avoidable events continue to occur in TJA. While retained objects are rare events in TJA, these adverse events lead to excess cost and procedural burden for patients. Quality improvement efforts should continue unitl these events are eliminated.

PMS9

ASSOCIATION BETWEEN SEDATIVE-HYPNOTICS USE AND FALLS IN COMMUNITY-DWELLING OLDER ADULTS

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OBJECTIVES: In US, falls are the leading cause of injury deaths among older adults and rate of fall-related deaths has risen significantly over the past decade. Medications with sedative or hypnotic properties are known to increase fall risk, but are frequently prescribed to older adults. Thus, this study aims to provide more accurate estimate risk of falls in older adults taking sedative-hypnotic drugs by accounting for inadequately addressed variables (e.g., off-label sedative-hypnotic use, and potential confounders not found in claims data). **METHODS:** Study population were community-dwelling older adults, age >65, with Medicare Part A, B and D coverage. In addition to socio-demographic, health, behavioral, and environmental factors, beneficiaries' past year fall and other fall-related information were collected from 2007 and 2009 fall supplements in Medicare Beneficiary Survey. Medication and comorbidity information were collected from Medicare claims data. Sedative-hypnotic drugs consisted of antidepressants with sedating properties, benzodiazepines, and non-benzodiazepine hypnotics. Total drug day supply was calculated for each beneficiary to indirectly observe cumulative dose effect. Logistic regression was conducted to assess the association between sedative-hypnotic use and falls. **RESULTS:** A total 2,823 beneficiaries were included in the study. Proportion of those who reported past year fall were 33% for users and 21% for non-users ($p<0.01$). When adjusted for socio-demographic and other covariates, sedative-hypnotic users were 1.5 times more likely to report a fall past year (OR 1.5, 1.2-2.0[PY1]); and 1.9 times for users with >1 sedative-hypnotic drug class (1.9, 1.2-3.0). Only the users with <90 day supply of sedative-hypnotics showed no increase in odds for past year fall. **CONCLUSIONS:** Sedative-hypnotic use was associated with increased risk of falls among older adults. Short-term use (<90 day supply) of sedative-hypnotic drugs may provide a safer treatment strategy for this population. [PY1]95% confidence interval is provided for each odds ratio (OR)

PMS10

RELATIONSHIP OF SERUM URIC ACID LEVELS WITH HYPERTENSION AND HYPERLIPIDEMIA IN PATIENTS WITH GOUT

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OBJECTIVES: To use electronic health records (EHR) data to evaluate relationships of serum uric acid (SrUA) levels with hypertension and hyperlipidemia in patients with gout. **METHODS:** This retrospective study used de-identified EHR data from the Humedica database between 2010 and 2013. Patients were adults (≥18 years) with ≥2 ICD-9-CM diagnosis codes for gout ≥30 days apart (first diagnosis = index event), with ≥1 SrUA assessments, and ≥6 months pre- and ≥12 months post-index activity. Hypertension and hyperlipidemia were based on ICD-9 codes; patients with a hypertension or hyperlipidemia diagnosis during the 6-month pre-index period were excluded. Patients were stratified by SrUA quartiles: 0.01-4.0mg/dL (n=2730), 4.1-6.0mg/dL (n=4349), 6.1-8.0mg/dL (n=6136), and ≥8.1mg/dL (n=5744). **RESULTS:** Patients were male (76.8%), white (81.1%) with mean±SD age of 60.5±14.1 years and mean±SD Charlson Comorbidity Index of 0.63±1.20. There were no significant differences across SrUA quartiles for proportions of patients diagnosed with hyperlipidemia 12-months post-index, which ranged from 37.6% (4.1-6.0mg/dL) to 38.2% (0.01-4.0mg/dL). In contrast, the ≥8.1mg/dL quartile had a significantly higher incidence of hypertension, 60.3% ($P<0.001$ versus all other quartiles), and the 0.01-4.0mg/dL quartile was significantly greater relative to the 4.1-6.0mg/dL quartile (56.1% vs 53.6%; $P<0.05$) but similar to the 6.1-8.0mg/dL quartile (54.5%). The diagnosis of hypertension or hyperlipidemia was made concurrently with the index event in 28.5% and 16.8% of patients, respectively. **CONCLUSIONS:** High SrUA appears associated with increased risk of hypertension; very low SrUA may also be associated with hypertension risk. Approximately 20% of patients were diagnosed with hypertension or hyperlipidemia concurrently with the gout diagnosis, suggesting that gout was the event that initiated recognition of these comorbidities, and that, at least in this population, healthcare encounters may be symptomatically driven, with lower utilization for preventive care. Further evaluation of the relationship between SrUA and onset of hypertension and hyperlipidemia is warranted.

PMS11

LITERATURE REVIEW - DOES THE CHARACTERIZATION OF AXIAL SPA DIFFER FOR BURDEN OF ILLNESS BETWEEN NON-RADIOGRAPHIC AXIAL SPONDYLOARTHRITIS AND ANKYLOSING SPONDYLITIS

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OBJECTIVES: Axial Spondyloarthritis (axSpA) is an inflammatory arthritic disease characterized by involvement of the spine, sacroiliac joints or both. Subtypes of axSpA include non-radiographic axial spondyloarthritis (nr-axSpA) without radiographic sacroilitis confirmation, and ankylosing spondylitis (AS) with radiographic sacroilitis confirmation. These diseases are recognized within a spectrum of disease. Evidence suggests further stratification of nr-axSpA (e.g., MRI +/- or CRP +/-) may clarify the continuum of axSpA and improve clinical practice. Study objectives include illustrating burden of illness (BOI) similarities between the classic and further stratified axSpA categories to suggest an improved diagnosis paradigm, and comparing BOI findings between nr-axSpA and AS subgroups to inform clinical practice. **METHODS:** English-language literature was searched systematically in Ovid SP, MEDLINE and EMBASE (2009–2014) for studies that described BOI characteristics of nr-axSpA and AS including prevalence, disease activity, functioning, HRQL, productivity and medication utilization. PICO statement (population, intervention, comparator and outcome) search terms were used. Supplementary records were obtained by searching American College of Rheumatology 2012 & 2013 and European League Against Rheumatism 2013 & 2014 scientific meeting abstracts. Additionally, electronic trial registries (e.g., clinicaltrials.gov), the USFDA website and article references were searched. **RESULTS:** 375 papers were retrieved and de-duplicated. Of the remaining 315 papers, 25 were selected per defined criteria. BOI in nr-axSpA and AS groups differed by gender, but were similar for all other categories (e.g., HRQL, functioning, productivity, etc.) indicating the two conditions pose a similar burden on patients. Nr-axSpA may be heterogeneous in presentation and follow a self-limiting or slowly-progressive disease course often seen in females (who may have lower inflammation activity). Although data for stratified groups (MRI+/-) within nr-axSpA was reported in one study, the evidence suggests similar BOI patterns. **CONCLUSIONS:** Future research should incorporate stratified nr-axSpA patient data for diagnostic comparisons and to inform clinical practice.

PMS12

BISPHOSPHONATES FOR FRACTURE PREVENTION IN MALES Â€“ A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: Male osteoporosis is a common but neglected public health problem. This may be a result of limited data evaluating the efficacy of bisphosphonates for fracture prevention in males. This systematic review and meta-analysis study assessed the efficacy of bisphosphonates versus placebo in preventing fractures among males. **METHODS:** We searched PubMed/MEDLINE, Embase, Cochrane Clinical Trials Library, Clinicaltrials.gov, and Scopus. All randomized placebo-controlled trials of alendronate, ibandronate, risedronate, or zoledronic acid with reporting fracture outcomes were assessed. The trials had to include males, be at least one year's duration, and utilize the United States. Food and Drug Administration approved bisphosphonate dosing. The outcomes of interest included clinical vertebral, morphometric vertebral, non-vertebral, hip, and any fracture. Fixed-effect models were used in both primary and subgroup meta-analyses. Publication bias was examined using funnel plots and Egger's test. Meta-regressions were conducted to examine age, body mass index, bone mineral density T-scores, and proportion of male participants on the treatment effect. A sensitivity analysis using random effects assumption was also conducted. **RESULTS:** 43 studies were included in this meta-analysis; 19 of them reported separate fracture for males. Bisphosphonates had significant effects on reducing any fractures (Total population: Relative Risk (RR)=0.63, 95% Confidence Interval (CI)=0.50-0.79; Male population: RR=0.58, 95%CI=0.36-0.85) and morphometric vertebral fractures (Total population: RR=0.45, 95%CI=0.32-0.63; Male population: RR=0.40, 95%CI=0.22-0.73). There was very little evidence of heterogeneity (Total population: I2=0.0%; Male population: I2=11.9%-15.3%). A visual inspection of the funnel plots and the Egger's tests (Total population: p=0.119; Male population: p=0.690) indicated no evidence of publication bias. Moreover, meta-regression showed effect size was unrelated to male proportion. There was no significant superior treatment effect on other fracture outcomes. **CONCLUSIONS:** Bisphosphonates significantly reduced vertebral fracture, and the effect was consistent regardless of male proportions. This supports use of bisphosphonates in males at risk for fracture.

PMS13

COMPARISON OF DISEASE STATUS AND OUTCOMES OF PATIENTS WITH RHEUMATOID ARTHRITIS (RA) RECEIVING ADALIMUMAB OR ETANERCEPT MONOTHERAPY IN THE UNITED STATES (US)

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OBJECTIVES: To compare the disease status and outcomes of patients with RA receiving adalimumab and etanercept monotherapy in the US. **METHODS:** A